

What is claimed is:

1. A fuel cell power generation system comprising a hydrogen reservoir that can occlude non-used hydrogen discharged from a fuel cell, and release the same, wherein said hydrogen reservoir has a first storage section comprising an easily hydrogen occluding first hydrogen occlusion material, and a second storage section comprising an easily hydrogen releasing second hydrogen occlusion material, said first storage section having a function to occlude once non-used hydrogen from said fuel cell and to release the occluded hydrogen, and said second storage section having a function to occlude hydrogen released from said first storage section and then to release the occluded hydrogen and supply to said fuel cell.

2. A fuel cell power generation system according to claim 1, wherein said fuel cell is supplied with hydrogen from said second storage section when the fuel cell starts up.

3. A fuel cell power generation system according to claim 1 or 2, wherein said first storage section is heated when said first storage section is made to release the occluded hydrogen.

4. A fuel cell power generation system according to claim 3, wherein the heating of said first storage section is stopped before the occluded hydrogen amount of said first storage section becomes zero.

5. A fuel cell power generation system according to claim 1 or 2, wherein said first storage section is provided with a through type tank having an inlet and an outlet.

6 A fuel cell power generation system according to claim 1 or 2, wherein a heat exchanger is provided in a supply conduit between said second storage section and said fuel cell.